IJIE (Indonesian Journal of Informatics Education)

Research Paper ISSN: 2549-0389

Modelling of Laboratory Information Systems in Higher Education Based on Enterprise Architecture Planning for Optimizing Monitoring and Equipment Maintenance

***Yahya Nur Ifriza**
Department Computer Science
Faculty of Mathematics and Science
Universitas Negeri Semarang
*yahyanurifriza@mail.unnes.ac.id

Trisni Wulandari Veronika
Faculty of Mathematics and Science
Universitas Negeri Semarang
trisniwulandari@mail.unnes.ac.id

Trisni Suryarini
Department Accounting
Faculty of Economics
Universitas Negeri Semarang
trisnisuryarini@mail.unnes.ac.id

Antonius Supriyadi
Faculty of Mathematics and Science
Universitas Negeri Semarang
antonius_supriyadi@mail.unnes.ac.id

Abstract:

It is possible to conduct scientific research, experiments, measurements, or training in a laboratory. Each department at FMIPA UNNES features several laboratories to complement class lectures for the students. Students can recognise concepts, cultivate scientific attitudes, and improve their critical thinking skills through lab practice. Utilising laboratory resources effectively and efficiently is expected of good laboratory management. Testing of lab equipment is required to ensure proper functionality and readiness for practicum use. Maintaining an eye on the equipment's condition and fixing any damage as soon as it becomes apparent is crucial for providing proof. The drawbacks of manually recording tool repairs are poor paperwork and equipment problems that are untraceable online. With the help of this study, the FMIPA UNNES environment departments will be able to monitor the upkeep of their lab equipment. The research approach starts with a literature review, followed by the first round of data collecting and observation, the design of an EAP-based system, system testing, system analysis, and system assessment. This research aims to create a product for the Monitoring Information System for the Maintenance of Laboratory Equipment using the SDLC (System Development Life Cycle) methodology. Testing involves the use of black box testing. The system's UAT grade of 88% implies that it is appropriate for use and may employ to simplify laboratory equipment management.

Keywords: *Laboratory, Equipment maintenance, Information system, Optimization, Maintenance*

DOI: http://dx.doi.org/10.20961/ijie.v6i2.64770

Retracted by the author on January 16th 2023.